

REPORT No. 8.—On the Growth and Manufacture of Tobacco.

GROWTH.

THE cultivation of the tobacco plant was introduced into New South Wales by some of the earliest settlers, but its expansion into an important industry dates only from about the year 1826, when the Australian Agricultural Company had under crop a considerable area on their estate at Stroud. From thence the cultivation extended to the valleys of the Hunter River and its confluent, the Paterson and Allyn rivers, and later to the Argyle district. In all these places, for many years after its introduction, tobacco-growing received much attention. Recently, however, the cultivation has almost ceased in the districts where it was first undertaken, and the greater part of the crop now grown in the Colony is obtained from the electoral districts of Gundagai, the Murrumbidgee, and Tumut.

The climate of New South Wales is highly favourable to the cultivation of tobacco, and the soil, especially of the fertile alluvial valleys of the Murrumbidgee and other rivers and of the Tumut district, rich in volcanic deposits, is eminently suitable for its growth. In the valleys, however, it is found that the returns fall away rapidly after the third or fourth year, owing to the exhaustion of the soil, unless refertilised by floods, but in the Tumut volcanic region abundant crops are raised for a number of years in succession from the same land, and the leaf obtained is said to be as good as the best grown in Virginia or Kentucky. Analyses of the plant show that it varies in composition with the climate and soil in which it is grown, and the quantity of ash is found to range from $17\frac{1}{2}$ to $22\frac{1}{2}$ per cent. of the weight of the plant, the average being about 20 per cent. The principal constituents of the ash are lime, potash, magnesia, and chlorine, found with other constituents in the following proportions:—

Silica	...	...	...	...	from 0.05 to 0.30 per cent.
Chlorine	...	...	...	...	" 0.08 " 2.55 "
Sulphuric acid	...	...	...	...	" 0.52 " 1.69 "
Phosphoric acid	...	...	...	...	" 0.47 " 0.80 "
Lime	...	...	...	...	" 3.17 " 8.22 "
Magnesia	...	...	...	...	" 0.94 " 2.21 "
Potash	...	...	...	...	" 3.90 " 7.45 "
Soda	...	...	...	...	" 0.08 " 1.81 "

The plant also contains from 3.2 to 5.1 per cent. of nitrogen, and traces of other components of less importance are sometimes found. Samples of leaf vary not only in regard to the quantity of the above-mentioned substances in the ash, but also in the presence or absence of particular constituents, whose special functions with regard to the making of good tobacco are not recognisable in the present state of information on the subject. By comparison of analyses of American and Australian leaf, and of the soils in which they are grown, it may be possible to discover whether the inferiority of Australian leaf results from the presence or absence of any particular substance in its composition.

Whatever may be its inherent defects there is evidence which would seem to show that most of the faults of locally-grown tobacco are due to defective preparation for the market. Thus the tobacco grown in the Tumut district is reported to be, as leaf, not only much superior to any other grown in Australia, but to be equal to American leaf, yet, when manufactured, it is not found to be much better than any other Australian tobacco. Curing is a process requiring knowledge and skill, as well as careful attention and proper appliances, and may be said to be the weak point in the tobacco industry as carried on in New South Wales. In most districts the industry is to a large extent in the hands of Chinese, who appear to bestow upon it greater care and patience than their European competitors, and are rewarded by a leaf of better quality, but much of the advantage gained by them in this way is lost by reason of lack of skill in curing and the absence of suitable barns for housing, drying, and preparing the crop after it is harvested.

From the subjoined table showing the area under cultivation, and the total production of tobacco leaf for the past eighteen years, it will be seen that the industry has been subject to very great fluctuations, the breadth of land under crop varying from 199 acres in 1874 to 4,833 in 1889, and the production from 1,261 cwt. to 55,478 cwt.

Year.	Area. acres.	Production in leaf. cwt.	Year.	Area. acres.	Production in Leaf. cwt.
1874	199	1,261	1883	1,815	17,540
1875	539	6,069	1884	1,785	20,006
1876	491	4,098	1885	1,046	9,914
1877	333	2,440	1886	1,603	22,947
1878	399	3,049	1887	1,203	13,642
1879	835	7,932	1888	2,371	23,465
1880	592	6,221	1889	4,833	55,478
1881	1,791	19,469	1890	3,239	27,724
1882	1,625	18,311	1891	1,148	10,592

The explanation of the anomalies revealed by these figures is not far to seek. So long as the production is not in excess of the demand of the local factories, tobacco-growing is undoubtedly a highly remunerative industry, but, as the leaf has no value whatever as an article of export, whenever a surplus is grown the excess remains a waste product on the hands of the growers. Warned by the experience of years of over-production many growers have abandoned the industry, but there has been no lack of others to take their places, so that only thrice since 1880 has production been less than manufacturers' requirements, whilst for the other eight years the quantity grown amounted in all to 204,940 cwt., of which, allowing for the three years of under-production, only 147,500 cwt. could be used; the remaining 57,440 cwt., representing excessive production, was, of necessity, thrown away. The inability of the growers to gauge the probable demand with any approach to accuracy has a very serious effect on the successful prosecution of the industry, for it cannot be expected that, where a market is wanting, any care will be taken in the preparation of the leaf, and under existing conditions it would be idle to look for a market outside the limits of the Colony.

In the year of greatest production, 1889, the quantity of leaf grown in New South Wales was 3,213,536 lb., and the total consumption of tobacco and cigars, 3,020,240 lb., of which 1,985,987 lb. were made in the Colony, the leaf used being 560,336 lb. of American and 1,425,651 lb. of local growth. Allowing for stems and waste, this latter would represent about 1,780,000 lb. of leaf, which, in a moderate season, could be grown on about 1,700 acres, whilst the area under tobacco was 4,833 acres. The supply for 1889 was, therefore, more than three times as great as the demand, whilst even in 1890, with a decrease of one-third in area and one-half in production, supply exceeded demand by 1,275,000 lb., or about eight months' supply, in addition to stocks remaining from the previous year. This over-production has affected prices to such an extent as to have made tobacco-farming an unprofitable industry. The present year shows a great falling off in the breadth of land devoted to tobacco, and the yield, which has been greatly affected by blight, amounted to only 1,186,300 lb., a quantity which would be far short of the local demand were it not for the supplies remaining over from the previous year.

THE MANUFACTURE OF TOBACCO, CIGARS, AND CIGARETTES.

In New South Wales there are at present only nine establishments in which is carried on the manufacture of tobacco, six being situated within the Metropolitan area, and employing about 600 hands; while Newcastle, East Maitland, and West Maitland have each one, providing between them employment for 75 hands. The manufacture of cigars and cigarettes is undertaken by only two of the principal tobacco-manufacturers, but this industry is carried on to some extent outside the factories by cigar-makers. These latter employ about 25 assistants altogether, so that in all its branches the industry affords employment to about 700 hands, comprising 480 males and 220 females.

ACCOMMODATION.

The factory buildings in and around Sydney have been specially designed and constructed for their present use, and are all substantially built, with every facility for economical management of the business and ample accommodation for the employees. Light, space, and ventilation have been supplied, and separate work-rooms and sanitary conveniences set apart for the use of the females. The comfort of the workers in most of the factories receives more than ordinary attention, but in one or two cases the want of a separate room for dressing, and taking their midday meal has subjected the female employees to considerable annoyance and discomfort. Two factories are fitted throughout with a fire-extinguishing apparatus, and in others the doors and stairs are of iron, and the furnaces, and in one case the lift also, are placed outside the main building, in order to minimise the danger of destruction by fire.

HOURS OF LABOUR.

The recognised hours of work are from 8 a.m. to 6 p.m., with an interval of one hour for dinner, making in all nine hours a day. There is no overtime, most of the work is done by the piece, and as a rule only permanent hands are kept on weekly wages. Periods of slackness are of frequent occurrence, and may cover as much as three months in the year, so that tobacco-workers must perforce be able to turn to other industries in case of need, and to this circumstance is due the fact that it is not an infrequent occurrence for piece-workers to absent themselves from the factory for weeks at a time, even when there is employment offering.

DIVISION OF LABOUR.

Tobacco operatives are distributed into various classes, called, after their occupations, dryers, teamers, strippers, pickers, twistors, plugmakers, plug-coverers, pressers, cigar-makers, and cigarette-makers. In none of the work required of them is any high degree of skill or knowledge necessary, and one of the processes involve any very laborious exertion. As a natural consequence boys and girls are employed in considerable numbers, the proportion of boys to men being about 62 per cent., and of girls to women slightly higher.

WAGES.

When in full work the average weekly wages of the various grades of pieceworkers are as follows:—

	Men.	Women.		Men.
<i>Tobacco</i> —Plug hands ...	28s. to 40s.	15s. to 21s.	<i>Cigars</i> ...	30s. to 60s.
Coverers ...	30s. to 40s.	20s. to 30s.	<i>Cigarettes</i> ...	27s. to 40s.
Twisters ...	50s. to 80s.		Boys and girls	10s. to 25s.
Boys ...	10s. to 21s.	Girls 8s. to 15s.		

EARNINGS.

In slack times it is customary to retain only the best hands, who for the most part work little more than half-time on piecework at the rates given in the preceding table. The less steady and skilful hands are for the time dispensed with, and must find, if possible, other occupations until the opportunity occurs of returning to the tobacco industry. By these slack periods, as well as by voluntary absences from work, the average earnings in the trade are very considerably reduced, a wage of £2 10s. per week representing an aggregate of not more than £70 or £80 for the whole year, while 4s. a day when in full work, which may be taken as the average pay of the best female workers, means probably £40 a year. Even those women who apply themselves more assiduously to work whenever it is procurable, and are able to earn the highest wages paid to females, nevertheless find themselves at times in very straitened circumstances. If such is the case with the most highly paid, it is not difficult to surmise what must be the lot of those who, through physical inability or other cause, cannot work assiduously or earn anything beyond a minimum wage. Females are employed almost exclusively on piecework, and some, who earn from 15s. to 20s. a week in busy times, have been engaged in this occupation for a number of years, and though unable by unremitting toil during factory hours to earn more than a very meagre subsistence, yet for conduct and morality the record of these constant hands is everywhere very favourable.

HEALTH.

If the testimony of employers and employees be accepted it goes very far to establish the unhealthiness of the industry, yet the sallow complexions of the workers would appear to belie this testimony, and it has been said that some of the processes are apt to cause specific diseases, and that men who have been engaged in this business for any length of time are unfitted for any other occupation, but sufficient evidence on this head has not been available for a definite opinion to be safely offered.

TAXES

TAXES ON TOBACCO.

The taxes levied on tobacco are as follows:—

Import duties				per lb.	Excise duties				per lb.
Tobacco	...	...	...	3/-	Tobacco	...	...	...	1/3
Snuff	...	...	...	3/-	Cigars	...	...	...	2/6
Leaf	...	...	...	3/-	Cigarettes	...	...	...	2/6
Leaf for manufacture	...	...	...	1/-					
Cigars	...	...	...	6/-					
Cigarettes	...	...	...	6/-					
Tobacco for sheepwash	...	...	...	-/3					

LICENSE FEES.

In addition to these taxes, fees for licenses to manufacture are charged as follows:—

FEES PAYABLE UNDER SECTION 5, ACT 47 VICT., 1884.

LICENSE A.

For every license to manufacture tobacco, cigars, and cigarettes from imported tobacco, upon which the full Customs duty of 3s. per lb. has been paid, and from leaf tobacco the produce of New South Wales, in quantities of manufactured tobacco, cigars, and cigarettes—

lb.		lb.		lb.		lb.		lb.	
Not exceeding	5,000	...	...	...	...	...	...	...	£5
Exceeding	5,000, but not exceeding	10,000	...	...	...	...	...	...	£10
"	10,000	"	"	20,000	...	...	...	...	£20
"	20,000	"	"	50,000	...	...	...	...	£50

LICENSE B.

For every license to manufacture tobacco, cigars, and cigarettes, under the immediate supervision of an officer of excise, from imported leaf tobacco received direct either from a Customs bonding warehouse or from ship's side, upon which the Customs duty of 1s. per lb. has been paid, or from leaf tobacco the produce of New South Wales, in quantities of manufactured tobacco, cigars, and cigarettes—

Not exceeding	100,000 lb.	...	...	...	...	...	...	£100
Exceeding	100,000 lb., but not exceeding	200,000 lb.	...	...	...	...	...	£150
"	200,000 lb.	"	"	350,000 lb.	...	...	...	£200
"	350,000 lb.	...	...	...	...	...	...	£250

Under License A, cigars and cigarettes made from tobacco on which the duty of 3s. per lb. is paid are free from the excise duty of 2s. 6d. per lb., provided no locally-grown tobacco is mixed therewith. This is equivalent to a preference of 3s. per lb. to the local manufacturer, as the import duty on cigars and cigarettes is 6s. per lb. Under License B an excise of 1s. 3d. per lb. is levied on all tobacco manufactured from imported or locally-grown leaf. This is equivalent to a preferential duty of 9d. per lb. in favour of the local manufacturer who used only imported leaf, and 1s. 9d. where only locally-grown leaf is used. In practice, however, it is found that the manufacturers use local and imported leaf in making tobacco in such proportions that the import duty of 1s. and the excise of 1s. 3d. equal a duty of 1s. 6½d., as against the import duty of 3s. on manufactured tobacco.

CIGARS AND CIGARETTES.

The quantity of cigars and cigarettes manufactured in the Colony is but small, and there has been of late years a considerable decline in the production of cigars, though this has been accompanied by a large increase in that of cigarettes. Some idea of the condition of these branches of the tobacco industry may be gathered from the following table showing the quantities manufactured for each year since 1885, also the quantity of cigars and cigarettes imported.

Year.	Made in Colony.		Imported.	
	Cigars.	Cigarettes.	Cigars.	Cigarettes.
	lb.	lb.	lb.	lb.
1885	9,402	6,901	317,995	40,593
1886	7,125	5,340	310,694	49,923
1887	6,057	10,269	257,312	50,318
1888	3,624	8,296	275,818	95,431
1889	5,392	9,200	341,328	72,142
1890	4,120	18,328	273,882	87,973

The cigars usually made in the Colony contain both Sumatra leaf and American seed tobacco. To make 1,000 cigars, 3 lb. of the former, valued at about 4s. 9d. per lb., is required; 6 lb. of the latter, worth approximately 1s. 3d. per lb., and 5 lb. of slightly inferior quality at (say) 1s. per lb., or 14 lb. in all, worth £1 6s. 9d. The duty at 3s. per lb. amounts to £2 2s., and the labour of making costs 35s. to 40s. If to this is added the cost of packages and other incidental charges, the cigars are worth £5 18s. to £6 3s. per 1,000 at the factory. The usual price obtained by the maker is from £6 10s. to £7, and the consumer pays the retailer 3d. each, or 1s. for five cigars.

The value of tobacco in cigarettes forms but a very small portion of the retail cost, the principal items being duty and excise, wrappers, and packing. From 2 lb. to 2¼ lb. of tobacco will make 1,000 cigarettes, the cost of the tobacco used varying from 6d. to 1s. 4d. per lb. The paper for wrappers is worth 3d., and the boxes and other packing expenses cost 4s. The expense of making varies according as machinery or hand power is employed. A good machine will turn out 100,000 cigarettes in a week of ordinary working time; by handwork a cigarette maker will average from 800 to 1,000 per day, but a good man will make as many as 1,500 by working long hours. The usual pay for handwork is 4s. per thousand, though in exceptional houses 5s. are paid. A good many females are employed in this work. Cigarettes are made mostly from American tobacco; perhaps not more than 7½ per cent. of New South Wales leaf is used, and then only the finer quality.

IMPORTS AND MANUFACTURE OF TOBACCO.

Out of a total import of 1,380,000 lb. of manufactured tobacco, the United States sends 635,000 lb., the United Kingdom 327,000 lb., and the remainder comes mostly from Germany and Hongkong. Nearly one-half of this total is re-exported, principally to Queensland, the South Sea Islands, New Caledonia, and the other colonies. The position of the manufacture within the Colony since 1885 is exhibited in the following table:—

Year.	Number of Factories.	Number of hands Employed.		Import duty on—		Excise on Tobacco.	Leaf used in Manufacture.		Manufactured in the Colony.	Imported for home consumption.	Total consumption of Tobacco.
				Manufactured Tobacco.	Leaf for Manufacture.		Locally grown.	Imported.			
		M.	F.	s. d.	s. d.	s. d.	lb.	lb.	lb.	lb.	lb.
1885	16	411	257	3 0	1 0	1 0	1,460,688	672,480	2,133,168	327,249	2,460,417
1886	17	559	144	3 0	1 0	1 0	1,482,725	561,514	2,044,239	372,408	2,416,647
1887 ..	13	506	156	3 0	1 0	{ 1 0 } { 1 3 }	1,595,012	552,217	2,147,229	492,346	2,639,575
1888	14	554	161	3 0	1 0	1 3	1,451,895	610,480	2,062,375	591,503	2,653,878
1889	10	454	167	3 0	1 0	1 3	1,425,652	545,740	1,971,392	711,109	2,682,501
1890	9	506	172	3 0	1 0	1 3	1,323,172	569,420	1,892,592	768,449	2,661,041

GENERAL REMARKS.

The quantity of tobacco, including cigars and cigarettes, consumed in the Colony, amount to 3,020,240 lb., being at the rate of 2·75 lb. per head of the estimated population for 1890. The decline in the manufacture of tobacco and cigars, and the increasing consumption of imported tobacco and cigarettes, are features deserving special notice.

It is the opinion of manufacturers that the operation of the excise taxation has injuriously affected the manufacture of tobacco, cigars, and cigarettes, causing a decrease in the local production, and a large increase in importations, and it is certain that several small factories, some of which had been in existence for more than fifty years, have recently been closed. The terms usually allowed by manufacturers to wholesale buyers virtually amount to a credit of at least five months, so that the present amount of excise (£118,257) necessitates the employment of an additional capital of £50,000, a sum considerably more than half the value of the plant and machinery employed in the business. It is therefore not surprising to find that the excise duties have had in their operation a depressing effect on all businesses where the command of capital has been limited. The stoppage of the small factories cannot, however, be entirely attributed to this cause. There is no doubt that this was at least partly to the change of fashion. Machine-made plug tobacco has almost entirely superseded in popular favour the "twist," the hand-made product of the small factories, whose businesses were too small to yield a profit on the expensive machinery and large capital required for the manufacture of plug tobacco. Another cause was the inferiority of the leaf used, or, at least, of the tobacco produced, which possesses a flavour far less delicate and agreeable than the imported. Cigars manufactured from locally-grown leaf have a limited sale for the same reason, for it is not to be supposed that popular taste will submit to use the disagreeable simply because it is of local manufacture.

THE EMPLOYMENT OF CHILDREN.

Rumours and reports to the effect that children under fourteen years of age were employed in several factories have been carefully investigated, but when questioned, the children invariably declared that they were over fourteen, and however strongly appearances might discredit their statements, no means of ascertaining the truth with regard to them were available.